

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/534,812	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	Kevin M. Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 3 March 2006.
2.  The allowed claim(s) is/are 1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,49,51,53,55-79,84-91 and 96-105 renumbered as claims 1-61.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

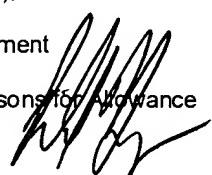
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.



RICHARD HJERPE  
 SUPERVISORY PATENT EXAMINER  
 TECHNOLOGY CENTER 2600

***Response to Amendment***

1. Response to applicant's amendment filed on 03 March 2006. Independent claims 1, 3, 5, 55, 57, 58 and 75 are amended for clarification and correcting information therein, which has been entered.

***Terminal Disclaimer***

2. The terminal disclaimer filed on 03 March 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,590,581 and U.S. Patent No. 6,753,854 has been reviewed and is accepted. The terminal disclaimer has been recorded.

**REASONS FOR ALLOWANCE**

3. Response to applicant's argument filed on 03 March 2006. Applicant's arguments with respect to independent claims 1, 3, 5, 55, 57, 58, 75, 77, 98 and 99 have been fully considered and are persuasive; therefore, the rejections of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 49, 51, 53, 55-79, 84-91 and 96-105 have been withdrawn.

4. Claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 49, 51, 53, 55-79, 84-91 and 96-105 are allowable. The restriction requirement among, as set forth in the

Office action mailed on 22 January 2002, has been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). **The restriction requirement is hereby withdrawn as to any claim that requires all the limitations of an allowable claim.** Claims 31-48, 80-83, 92-95, 106 and 107, directed to species I, III-VI, and VIII-XV withdrawn from further consideration because they do not all require all the limitations of an allowable generic linking claim as required by 37 CFR 1.141.

In view of the above noted withdrawal of the restriction requirement, applicant is advised that if any claim(s) presented in a continuation or divisional application includes all the limitations of a claim that is allowable in the present application, such claims may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

5. The following is an examiner's statement of reasons for allowance:

The instant application is directed to a nonobvious improvement over the invention described in Pat. No. 5,499,037 to Nakagawa et al. and Pat. No. 6,020,869 to Sasaki et al. The improvement at least comprises:

wherein the liquid crystal display device is optically compensated bend mode, wherein the liquid crystal display device is configured to conduct voltage grayscale and time ratio grayscale at the same time by using n bit out of m bit digital data as information for voltage grayscale, and (m-n) bit as information for time ratio grayscale,

wherein m and n are positive number equal to or greater than 2 and satisfy  $m > n$ , as recited in claims 1 and 57;

wherein the liquid crystal display is configured to form an image for one frame comprising  $2^{m-n}$  subframe by performing voltage grayscale and time ratio grayscale that uses  $(m-n)$  bit at the same time, and applying voltage which makes an orientation of liquid crystal to bend orientation on starting display of the  $2^{m-n}$  subframes, as recited in claims 3, 5 and 58;

wherein said liquid crystal layer having  $\pi$  cell structure; and wherein a m bit digital video data inputted to the digital video data time ratio grayscale processing circuit is converted into an n bit digital video data for voltage grayscale while  $(m-n)$  bit data of the m bit digital video data is used for time ratio grayscale, as recited in claim 55;

a circuit converting a video data into a digital video data for a gradation display using voltage grayscale and time ratio grayscale, as recited in claims 75;

a circuit converting the first digital video digital data into a second digital video data for a gradation display using voltage grayscale and time ratio grayscale, as recited in claims 77, 98, and 99;

This patentable distinction is included in all independent claims 1, 3, 5, 55, 57, 58, 75, 77, 98 and 99.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN M. NGUYEN whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 8:00-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, a supervisor RICHARD A. HJERPE can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the Patent Application Information Retrieval system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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March 15, 2006



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